What is claimed is:

1. An optical transmission device for performing transmission of an optical signal, comprising:

a WDM port as a port for transmission and reception of a wavelength-multiplexed signal; and

a wavelength multiplex/demultiplex unit which has a loss characteristic compensating for a wavelength-dependent loss characteristic of an optical transmission line, performs at least one of wavelength demultiplexing of a signal received through said WDM port and wavelength multiplexing for outputting a signal through the WDM port, and suppresses differences among different channels in loss caused by transmission of a wavelength-multiplexed signal so as to equalize loss levels in the different channels in the wavelength-multiplexed signal.

2. The optical transmission device according to claim 1, wherein said wavelength multiplex/demultiplex unit comprises a plurality of optical filters which are provided in correspondence with a plurality of wavelengths, are daisy-chain connected, and have a loss characteristic weighted at the plurality of wavelengths in correspondence with said wavelength-dependent loss characteristic, and each of the plurality of optical filters has a function of a band-pass filter and an identical insertion loss.

3. The optical transmission device according to claim 2, wherein when said wavelength-dependent loss characteristic shows decrease in loss with increase in wavelength in a first wavelength range and increase in loss with increase in wavelength in a second wavelength range, said plurality of optical filters are arranged in such a manner that signals to be demultiplexed first pass through ones of said plurality of optical filters corresponding to wavelengths in one of said first and second wavelength ranges in decreasing order of said wavelength-dependent loss characteristic, and then through other ones of said plurality of optical filters corresponding to wavelengths in another of said first and second wavelength ranges in decreasing order of said wavelength-dependent loss characteristic.

4. The optical transmission device according to claim 1, wherein said wavelength multiplex/demultiplex unit further comprises an optical filter through which separation or insertion of a signal for maintenance control is performed.

5. An optical transmission system for performing transmission of an optical signal, comprising:

an optical transmission line as a transmission medium of a wavelength-multiplexed signal;

a first optical transmission device being

connected to an end of said optical transmission line, and comprising a first wavelength multiplex/demultiplex unit which has a loss characteristic compensating for a wavelength-dependent loss characteristic of the optical transmission line, and performs at least one of wavelength demultiplexing of an optical signal and wavelength multiplexing of optical signals; and

a second optical transmission device being connected to another end of said optical transmission line, and comprising a second wavelength multiplex/demultiplex unit which has a loss characteristic compensating for said wavelength-dependent loss characteristic of the optical transmission line, and performs at least one of wavelength demultiplexing of an optical signal and wavelength multiplexing of optical signals.

6. The optical transmission system according to claim 5, wherein each of said first and second wavelength multiplex/demultiplex units comprises a plurality of optical filters which are provided in correspondence with a plurality of wavelengths, are daisy-chain connected, and have a loss characteristic weighted at the plurality of wavelengths in correspondence with said wavelength-dependent loss characteristic, and each of the plurality of optical filters has a function of a band-pass filter and an identical insertion loss.

7. The optical transmission system according to claim 6, wherein when said wavelength-dependent loss characteristic shows decrease in loss with increase in wavelength in a first wavelength range and increase in loss with increase in wavelength in a second wavelength range, said plurality of optical filters in each of said first and second wavelength multiplex/demultiplex units are arranged in such a manner that signals to be demultiplexed first pass through ones of said plurality of optical filters corresponding to a plurality of wavelengths in one of said first and second wavelength ranges in decreasing order of said wavelength-dependent loss characteristic, and then through other ones of said plurality of optical filters corresponding to a plurality of wavelengths in another of said first and second wavelength ranges in decreasing order of said wavelength-dependent loss characteristic.

8. The optical transmission system according to claim 5, wherein each of said first and second wavelength multiplex/demultiplex units further comprises an optical filter through which separation or insertion of a signal for maintenance control is performed.

9. The optical transmission system according to claim 5, wherein when said first wavelength multiplex/demultiplex unit performs wavelength

multiplexing, and said second wavelength multiplex/demultiplex unit performs wavelength demultiplexing, each of said first and second wavelength multiplex/demultiplex units has a loss characteristic which compensates for half of said wavelength-dependent loss characteristic so that differences among different channels in loss caused by transmission of a wavelength-multiplexed signal are suppressed, and loss levels in the different channels in the wavelength-multiplexed signal are equalized.

10. The optical transmission system according to claim 5, wherein when said first wavelength multiplex/demultiplex unit performs wavelength multiplexing, and said second wavelength multiplex/demultiplex unit performs wavelength demultiplexing, said first wavelength multiplex/demultiplex unit has a first loss characteristic which compensates for a first wavelength-dependent loss characteristic of a first section of the optical transmission line between said first optical transmission device and a midpoint of the optical transmission line, and said second wavelength multiplex/demultiplex unit has a second loss characteristic which compensates for a second wavelength-dependent loss characteristic of a second section of the optical transmission line between said midpoint and said second optical transmission device,

so that differences among different channels in loss caused by transmission of a wavelength-multiplexed signal are suppressed, and loss levels in the different channels in the wavelength-multiplexed signal are equalized.

11. The optical transmission system according to claim 5, wherein when said first wavelength multiplex/demultiplex unit performs wavelength multiplexing, and said second wavelength multiplex/demultiplex unit performs wavelength demultiplexing, said first wavelength multiplex/demultiplex unit has a loss characteristic which compensates for said wavelength-dependent loss characteristic of the optical transmission line, and said second wavelength multiplex/demultiplex unit has a flat loss characteristic which shows identical loss levels at all wavelengths used in transmission, so that differences among different channels in loss caused by transmission of a wavelength-multiplexed signal are suppressed, and loss levels in the different channels in the wavelength-multiplexed signal are equalized.

12. The optical transmission system according to claim 5, wherein when said first wavelength multiplex/demultiplex unit performs wavelength multiplexing, and said second wavelength multiplex/demultiplex unit performs wavelength

demultiplexing, said first wavelength multiplex/demultiplex unit has a flat loss characteristic which shows identical loss levels at all wavelengths used in transmission, and said second wavelength multiplex/demultiplex unit has a loss characteristic which compensates for said wavelength-dependent loss characteristic of the optical transmission line, so that differences among different channels in loss caused by transmission of a wavelength-multiplexed signal are suppressed, and loss levels in the different channels in the wavelength-multiplexed signal are equalized.

13. A wavelength multiplexing coupler for performing wavelength multiplexing, comprising:

a plurality of input ports through which light having a plurality of different wavelengths is received;

a multiplexing unit which has losses corresponding to said plurality of different wavelengths of said light received through said plurality of input ports, and multiplexes the light received through the plurality of input ports; and

an output port through which the light multiplexed by said multiplexing unit is outputted onto an optical transmission line.

14. The wavelength multiplexing coupler according to claim 13, wherein said optical transmission line has a

wavelength-dependent loss characteristic, and said losses which the multiplexing unit has correspond to the wavelength-dependent loss characteristic of the optical transmission line.

15. A wavelength demultiplexing coupler for performing wavelength demultiplexing, comprising:

an input port through which wavelength-multiplexed light is received from an optical transmission line, where light having a plurality of different wavelengths is multiplexed in the wavelength-multiplexed signal;

a demultiplexing unit which has losses corresponding to said plurality of different wavelengths of said wavelength-multiplexed light received through the input port, and demultiplexes the wavelength-multiplexed light received through the input port, into demultiplexed light; and

a plurality of output ports through which said demultiplexed light is outputted.

16. The wavelength demultiplexing coupler according to claim 15, wherein said optical transmission line has a wavelength-dependent loss characteristic, and said losses which the demultiplexing unit has correspond to the wavelength-dependent loss characteristic of said optical transmission line.

17. A wavelength multiplexing-and-demultiplexing coupler for multiplexing and demultiplexing wavelengths, comprising:

a first input-and-output port through which light having a plurality of first different wavelengths is received from an optical transmission line, and light having a plurality of second different wavelengths is outputted onto the optical transmission line;

a multiplexing-and-demultiplexing unit which has one of first loss corresponding to said plurality of first different wavelengths and second loss corresponding to said plurality of second different wavelengths, demultiplexes said plurality of first different wavelengths received through said first input-and-output port, and multiplexes said plurality of second different wavelengths to be outputted through said first input-and-output port; and

a plurality of second input-and-output ports through which light to be multiplexed is received, and demultiplexed light is outputted.

18. The wavelength multiplexing-and-demultiplexing coupler according to claim 17, wherein said optical transmission line has a wavelength-dependent loss characteristic, and said one of the first loss and the second loss corresponds to the wavelength-dependent loss

characteristic of the optical transmission line.